

***Vehicle Installation
Guide***

**Mobile
Workstation
MW 800
Series**

Models:

F5206, F5207 & F5217



6802967C20-E



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The FCC requires that manuals pertaining to Class A and Class B computing devices must contain warnings about possible interference with local residential radio and TV reception. This warning reads as follows:

NOTE: This equipment has been tested and found to comply with limits for a Class B digital device, pursuant to Part 90 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial or residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

For detailed product safety and RF exposure for mobile stations with two-way radios installed in vehicles, refer to Electromagnetic Emission (EME) safety leaflet, Motorola publication Number 68P02967C16.

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The URL references in this manual are subject to change without notice.

Contents

References.....	1
MW 800 Publications	1
Internet Web Sites.....	1
Using this Manual.....	3
Who Should Use this Manual	3
What is in this Manual	3
Safe Handling Instructions.....	3
FCC Compliance Notice.....	3
FCC Grant Of Equipment Authorization	4
Notational Conventions	4
Warning	4
Caution	4
Note	4
Introduction	5
Mount Features	5
General Description	5
Installation.....	7
Unpacking.....	7
Preparing to Install the MW 800 Inside the Vehicle	7
Tools.....	7
Planning.....	7
MW 800 Mounting Location.....	8
Equipment Ventilation.....	8
Air Bag Considerations	9
Environmental Considerations	11
Electrical Guidelines	11
Mobile Antenna Installation	11
Installation Procedure	12
Mounting the MW 800	12
MW 800 Keyboard	13
MW 800 Display	14
MW 800 CPU Box	15
MW 800 GPS Antenna.....	16

Interconnection of the MW 800 CPU Box	17
.....	19
W-WAN Antenna Connection	19
W-LAN Radio (802.11b) Connection	19
GPS Connection	19
Video In Connection.....	19
Display Connections.....	19
USB Connections	20
Firewire Connection	20
Serial Connection	20
LAN Connection	20
Microphone Connection	20
Audio Out Connection.....	20
PWR Connection	20
AUX Connection	21
Ignition Sense Connection	21
Turn-on Modes	22
Using the Power Button or Ignition Key to Start the MW 800	22
Using the Power Button and Ignition Key to Start the MW 800.....	22
Using the Power Button to Start the MW 800.....	22
Using the Ignition Key to Start the MW 800	22
Turning On the MW 800	23
Turning Off the MW 800.....	23
Replacing Power Cable Fuse (Vehicle Power).....	23
Storage	24
Receptacles	25
Accessories.....	35
Acronyms.....	39
Glossary	41
General Specifications	43

References

You may need to refer to the documents listed below for further information. These documents can be obtained from the following source:

Motorola Americas Parts Division Motorola Centralized Customer Service 1313 E. Algonquin Road Schaumburg, IL 60196 1-800-422-4210 FAX 1-847-538-8198	Motorola Literature Distribution Center 2290 Hammond Drive Schaumburg, IL 60172 1-847-576-2828 FAX 1-800-576-5891
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Please note that this manual provides general references to SDI (Scientific Dimensions, Inc.) mounts and accessories. To obtain detailed information regarding SDI mounts, please refer to SDI publications.

MW 800 Publications

Document	Equip. Model No.	Document No.
Mobile Workstation MW 800 Owner's Manual	F5206	6802967C30
Mobile Workstation MW 800 Product Safety and RF Exposure for Mobile Stations	F5206, F5207, F5217	6802967C16
Mobile Workstation MW 800 Owner's Manual	F5207, F5217	6802976C60
Mobile Workstation MW 800 User's Guide	F5207, F5217	6802976C65
Mobile Workstation MW 800 Maintenance Programming Software	F5207, F5217	6802976C70
Mobile Workstation MW 800 12.1" Display Owner's Manual	FLN3157, FLN3167, FLN3168, FLN3169	6802976C75
Mobile Workstation MW 800 8.4" Display Owner's Manual	FLN3221	6802970C95
Mobile Workstation MW 800 8.4" Display Vehicle Installation Guide	FLN3221	6802973C30

Internet Web Sites

Motorola Web site: <http://www.motorola.com>

SDI Web site: <http://www.sdi.cc>

Please note that the Web site location references in this manual are subject to change without notice.

Using this Manual

Who Should Use this Manual

This manual is intended for trained service technicians, radio engineers, and technical operation support staff who install the Mobile Workstation 800 (MW 800) (Models F5206, F5207 and F5217) in a vehicle.

What is in this Manual

“Introduction”, lists the features of the MW 800 vehicle mount.

“Installation”, describes the tools and equipment, planning requirements, and product inspections necessary for a smooth installation of the MW 800.

Safe Handling Instructions

FCC Compliance Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 90 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment OFF and ON, the technician is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a different circuit from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

For detailed product safety and RF exposure for mobile stations with two-way radios installed in vehicles, refer to Electromagnetic Emission (EME) safety leaflet, Motorola publication Number 68P02967C16.

FCC Grant Of Equipment Authorization

Table 1

FCC Grant of Equipment Authorization

Radio	Network	FCC ID	Freq Band (MHz)	Power
DataTAC	Private DataTAC	PQS-BM28001	806-825	1.8W
g18	GPRS	IHDT6AC1	900/1900 or 925/1800	2W/1W
iO1000	iDEN	AZ489FT5796	806-821	0.6W
Wireless LAN	WLAN 2.4 GHz	H9PLA4137 (for model F5206) PD9WM3B2200BG (for model F5207)	2400	100 mW
Bluetooth	WPAN	AZ489FT7006	2400	1 mW

Notational Conventions

Throughout this publication, you will notice the use of warnings, cautions, and notes. These notations are used to emphasize that safety hazards exist, and care must be taken.

Do not proceed beyond a WARNING or CAUTION until the indicated conditions are fully understood and met.

Warning



Indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.

Caution



Indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury. CAUTION may also be used to alert against unsafe practices and property-damage-only accident hazards.

Note



An operational procedure, practice, condition, etc., which it is essential to emphasize.

Introduction

This section lists the features of the Mobile Workstation 800 (MW 800) vehicle mount.



Note

This section refers to a specific models of Motorola or SDI manufactured mounts. Please note that the MW 800 may also be installed with any other models of Motorola or SDI manufactured mounts.

Mount Features

The MW 800 mount:

- Holds the MW 800 display within easy view of the driver
- Permits easy access to the dashboard controls
- Permits easy access to and removal of the keyboard
- Enables easy access or, if preferred, prevents access with flexible placement of the CPU box

General Description

The MW 800 Mount assembly (DSSDI 8400) is comprised of five major components: the base plate, pedestal, keyboard holder, display holder and an optional CPU box mount (see Figure 1). All four assemblies are shipped as a complete unit with a hardware bag for mounting to the customer's vehicle hump. In case your vehicle does not have an hump, elevate the mount assembly by installing a tunnel plate between the driver and the passenger seats

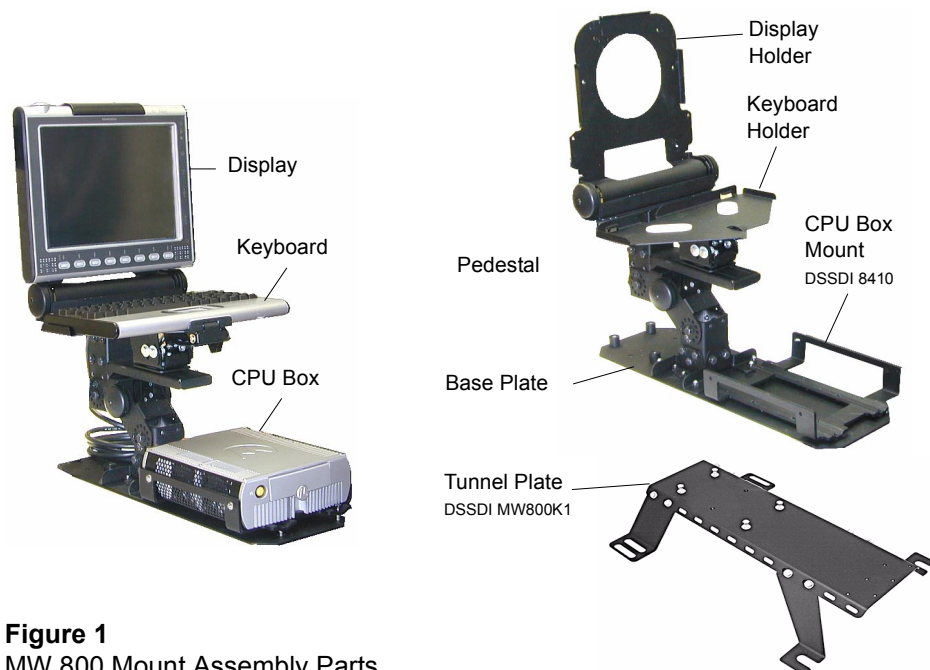


Figure 1
MW 800 Mount Assembly Parts

The pedestal assembly is mounted on a base plate, terminating in a double clevis that accepts the display assembly. The base plate is connected to the vehicle hump (or tunnel plate) by eight bolts. The pedestal assembly has horizontal extension pedestal attached at the middle of the vertical assembly to accommodate the simple attachment of the keyboard assembly and CPU box mount.

The keyboard assembly allows for the quick insertion and removal of the MW 800 keyboard. The keyboard platform swivels left and right freely, with adjustment friction setting. The keyboard platform can also be tilted and locked in the required position by loosening a knob on the underside of the platform. The keyboard is removed by pressing up on the spring loaded flange, under the keyboard platform. The keyboard is installed by placing the back of the keyboard against the locating flanges on the back vertical wall of the platform and pressing down the front so that the spring flange engages the detente on the front of the keyboard.

The CPU box mount allows the CPU box to be mounted on the pedestal and can protrude forward or backward from the pedestal (see Figure 8 and Figure 9). The CPU box mount can be installed in any other suitable location inside the vehicle.

**Note**

Motorola recommends the use of the CPU mount. Failure to do so may result in hard drive damage due to vibration.

The display assembly is attached directly to the MW 800 display using the provided hardware in the display kit (not SDI supplied). The display can be swiveled a total of 20 degrees, ± 10 degrees in each direction. The display tilt limits are 10 degree backward towards the dashboard and 45 degrees forward tilt. The swivel friction is adjustable by tightening the 10-32 nylok nuts under the display perch. The handle at the top center of the display (part of the display) is used to bring the display down. Grabbing the display on both sides and twisting it slightly allows the rotation of swivel to occur.

Installation

This section describes the tools and equipment, planning requirements, and product inspections necessary for a smooth installation of the Mobile Workstation 800 (MW 800). Proper planning will help to ensure that the installation is completed without difficulty and that no damage occurs to the units or the vehicle.



The MW 800 is a reliable product when installed correctly. However, performance can be seriously impaired if it is not installed correctly. Thoughtful planning can make the difference.



Please note that installing any part of the MW 800 must be according to the instructions provided in this manual or by SDI.

Unpacking

Carefully unpack each item from the shipping carton. Check all items for shipping damage, and make sure you have received all items ordered.

If there is damage or missing items, retain the shipping carton for inspection.

The following parts are used to mount the MW 800:

- Mount assembly
- CPU box mount kit for the MW 800 CPU V056AQ (optional)
- *Mobile Workstation MW 800 Vehicle Installation Guide*, 68P02967C20

Preparing to Install the MW 800 Inside the Vehicle

Tools

The following tools and service aids are required for installation:

- 3/8" nut driver
- 1/2", 3/8" or 7/16" wrench
- No. 2 and 4 Phillips screwdriver
- Drill with 3/16" drill bit

Planning

Be sure to consider the following issues when planning the installation:

- Keyboard and display location relative to air bag deployment zones
- Environmental considerations
- Electrical guidelines
- Liquid Propane (LP) gas warning

- Usability by driver/operator
- Vehicle vendor instructions
- Local vehicle authority regulations/design rules



When installing the MW 800, make sure that the CPU box mount or any support is tightly anchored to the vehicle structure. Wobbly mount can damage the hard drive.

MW 800 Mounting Location

The MW 800 is typically installed on a mount assembly, which affixes directly to the vehicle transmission hump or to the Tunnel plate (preferred and not included in the kit).

Using an optional tall pedestal under the MW 800 is recommended only for use in vehicles where air bag compliance is not required. An example of this is a utility van which does not have passenger-side air bags for the given model year.

Correct positioning of the pedestal will ensure that the MW 800 meets the following requirements:

- It is within easy reach of the driver/operator (more difficult due to air bag constraints)
- It will not injure the operator or passenger in case of an accident
- It does not interfere with the driver's vision
- The workstation is properly ventilated

Equipment Ventilation

The display and CPU box are designed to operate properly in an ambient temperature range of -22°F to 158°F (-30°C to +70°C). The MW 800 CPU must be installed in an area with adequate air flow to allow for proper ventilation. Installers must install the CPU in an unobstructed location in order to allow proper air flow (see Figure 2). It is imperative to avoid installing the CPU in an enclosure or next to heat generating equipment such as: radio transmitters, power amplifiers or a cabin heater.

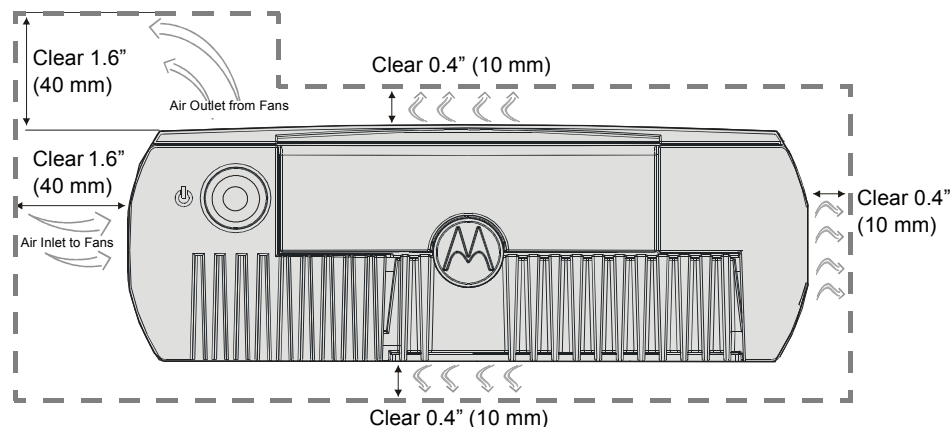
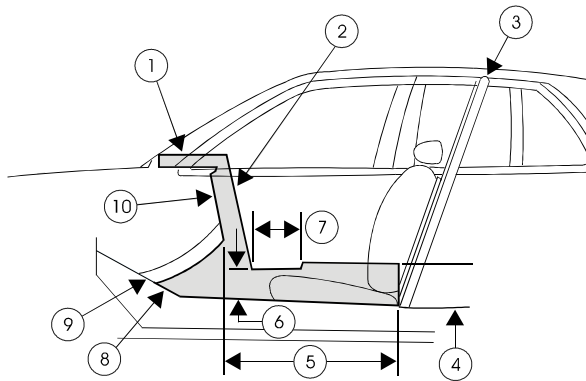


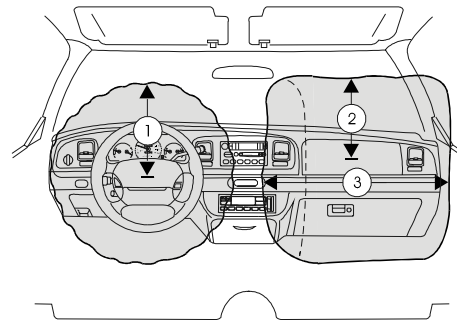
Figure 2
Clear Ventilation Area Around the CPU Box

Air Bag Considerations

Provided for your reference are several air bag deployment zone templates from automobiles used in public safety roles (Figure 3, Figure 4 and Figure 5). It is very important to obtain the official documents of the automobile to ensure the safe installation.



1. Area on top of instrument panel
2. Area in front of center console from tunnel up to instrument panel
3. Prisoner screen
4. 254 mm (10 inches)
5. Area on tunnel between seats
6. Height: 216 mm (8.5 inches)
7. 305 mm (12 inches)
8. Area on tunnel beneath center console
9. Tunnel
10. Depth: 38 mm (1.5 inches)



1. 240 mm (9.5 inches) from center of air bag door
2. 375 mm (15 inches) from center of air bag door
3. 750 mm (29.5 inches)

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Figure 3
Air Bag Deployment Zones - Crown Victoria

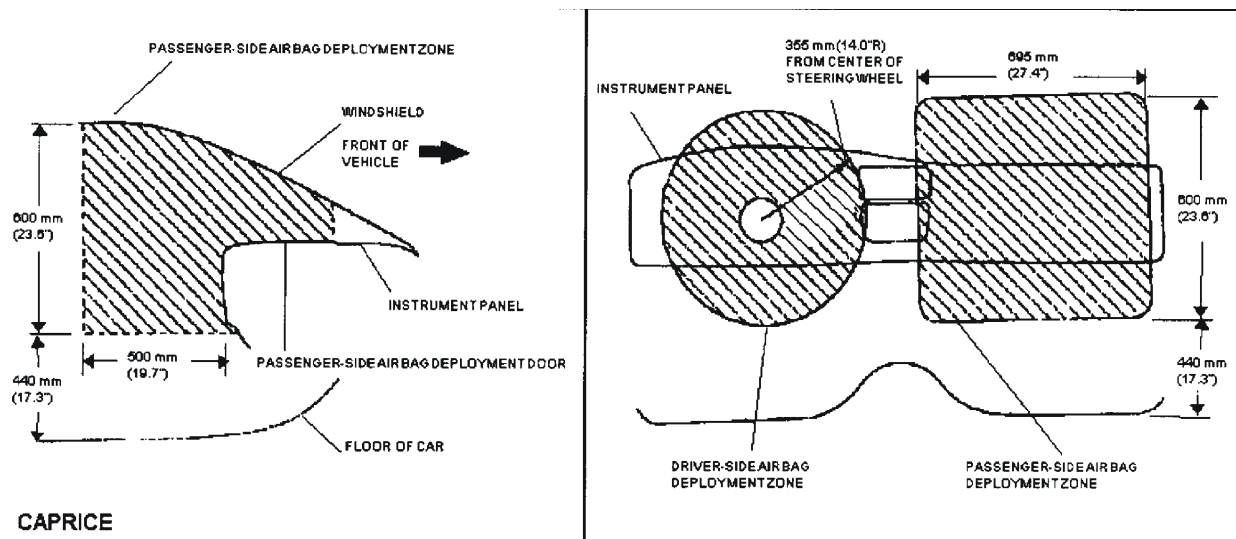


Figure 4
Air Bag Deployment Zones - Caprice

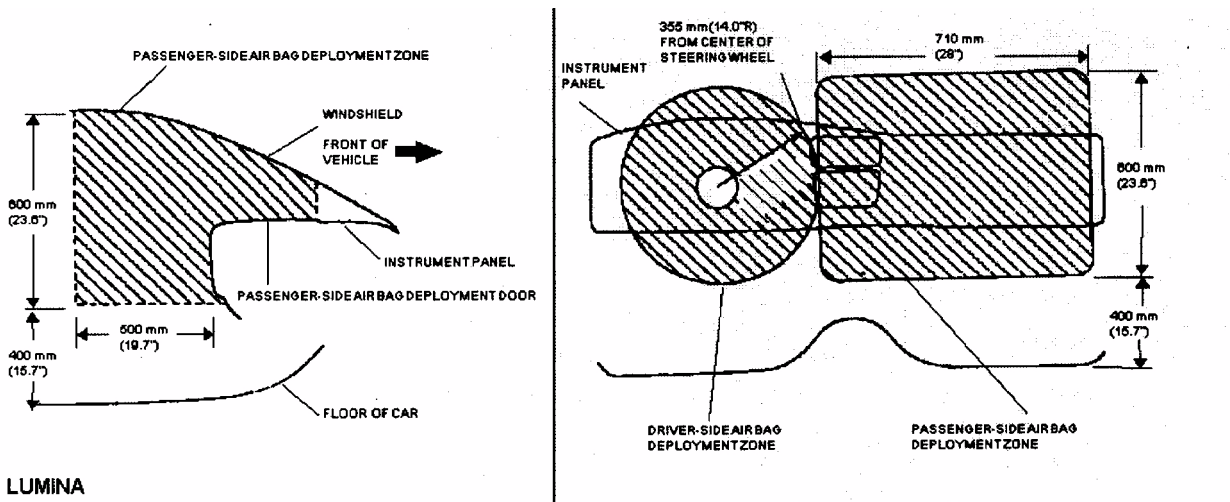


Figure 5
Air Bag Deployment Zones - Lumina

Environmental Considerations

Consider the environmental parameters listed in the General Specifications section before installing the MW 800.



For operation in hot climates, the vehicle must be adequately ventilated (for temperatures see General Specifications section).

Electrical Guidelines

Be sure that the vehicle's electrical system is in good condition. Faults in the alternator and ignition system can be a source of severe Radio Frequency Interference (RFI) and can result in MW 800 operating problems. Correct any problems in the alternator output, ignition system, and battery condition before beginning the installation.



DO NOT install the workstation in a vehicle with a positive-ground electrical system.

The power requirement for operating the MW 800 is 13.8VDC +/- 20%, 15A, negative ground. The vehicle must have an alternator that can produce a high-current output at low speed (below 18 m.p.h. or 29 km/h) and in an idle state. It also needs the highest rated heavy-duty battery available for the vehicle. The power cables of the MW 800 should be directly connected to the power system of the vehicle.



Avoid using power Battery Saver relays that cut-off power ruthlessly between the MW 800 main power and the power system of the vehicle. Uncontrolled power cut-off can damage the MW 800 operating system and may require re-imaging of the hard drive. If a power cut-off device is used in order to conserve vehicle battery life, please consult a qualified Motorola authorized installation shop or contact the Motorola system support center for assistance..

Cables longer than 10 ft. (3.05 m) should be routed through special UL listed conduit/duct for electrical cables. This conduit/duct should fully enclose the cable along its whole length.

Mobile Antenna Installation

Vehicle antennas must be installed external to the vehicle and in accordance with:

- The requirements of the antenna manufacturer/supplier.
- Instructions in the installation manual of the external radio (in case an external radio is used).

Installation Procedure

Mounting the MW 800

Perform the following steps to install the MW 800:

Step 1. Determine the proper mounting location.

Step 2. Remove the hardware bag from the shipping container.

Step 3. Ensure that the pedestal is securely bolted together.

Step 4. The mount assembly can be mounted directly on the vehicle transmission hump secured rigidly to the vehicle transmission hump. (Commercial hump plates are available, such as the SDI 7200 system or equivalent).

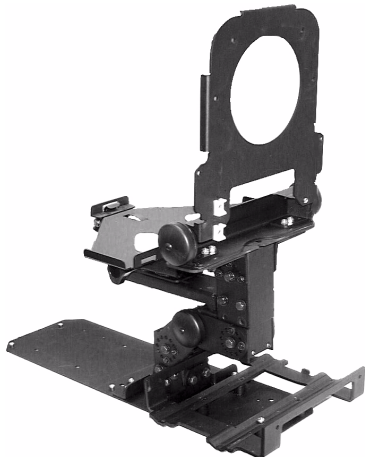


Figure 6
Mount Assembly General View (CPU Box Mount at rear)



Figure 7
Mount Assembly General View (CPU Box Mount at front)



Figure 8
MW 800 on Mount Assembly (CPU Box at rear)



Figure 9
MW 800 on Mount Assembly (CPU Box at front)

- Step 5. Place the mount assembly with the CPU Box mount (if desired) in the vehicle and use it for marking the location of the base plate or the hump plate on the vehicle transmission hump. If no hump exists, place the pedestal or SDI tunnel plate between the driver and the passenger seats for marking the location.
- Step 6. At the proper location, drill four 1/4" holes into the transmission hump or the hump plate in order to achieve optimal functionality and use of the MW 800.



Be careful not to drill into the transmission. Some commercially available hump plates, such as the SDI 7200 system, may have the hole pattern already pre-drilled.

- Step 7. Attach the pedestal to the desired anchor point on the transmission hump or on the hump plate, using studs and nuts, screws and nuts or self-tapping screws, as required.
- Steps 8 and 9 are optional for adjusting the tilt tension.
- Step 8. Remove the two end caps.
- Step 9. Fold down tension should be adjusted by tightening the two 5/16" nuts at the edges of the folding mechanism. This can also be done when the MW 800 display is installed on the mount assembly.
- Step 10. Attach the display to the mount and route the Display Signal Cable down the pedestal. Ensure that the Display Signal Cable has enough slack to move when the display is tilted down.
- Step 11. Rotate the keyboard left and right to determine the range of swivel. Some hump plates are attached to the anchor points of the seats. These hump plates allow adjustment front to back, thus allowing for fine-tuning of the installation.
- Step 12. Fold the display up and down to determine the available range for the given vehicle and application. When mounting the keyboard, care must be exercised to ensure sufficient space for proper installation of the device. This will restrict the amount of tilt/swivel available.

MW 800 Keyboard

The keyboard tray is attached to the MW 800 mount. The keyboard tray may be removed if desired and can be tilted or swiveled.

If required, the keyboard can be placed elsewhere in the vehicle to allow for use of other installed equipment. Please ensure that all safety guidelines and air-bag deployment requirements are met.

The keyboard is provided with a quick release holder to allow operation of the keyboard when out of the holder. Care must be used to ensure ample space for extracting and reinserting the keyboard into the holder. Ensure that the cable is routed in a manner that allows the operator to remove the keyboard from the mounting tray and operate the keyboard in their lap.

MW 800 Display

The MW 800 display is attached to the display mount by Phillips screws (M4), supplied in the display shipping carton. The Display Signal Cable is routed from the CPU box, through the mount, and connected to the lower back side of the display. Use caution when assembling the cable to the display, to prevent damage to the display or the cable. Form a service loop for the Power and Display Signal Cables to reduce cable tension. Use plastic cable ties to secure the cables to cable tie points.

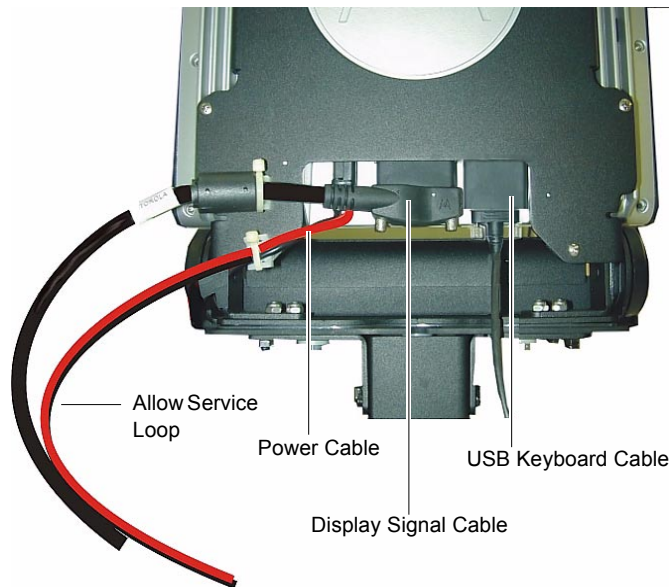


Figure 10
Display Cable Route



Long Display Signal Cables (longer than 3 Meter, 9.14 foot) should be routed inside protective ducts to avoid damage

MW 800 CPU Box

The MW 800 CPU box should be mounted so that the cables from the keyboard(s), display(s), power system and peripherals can be attached. The limiting factor is the 17 feet length of the display signal cable. When attached to the display, this cable is routed down through the pedestal to the CPU box. Use plastic cable ties to secure the cables to the cable tie bracket.

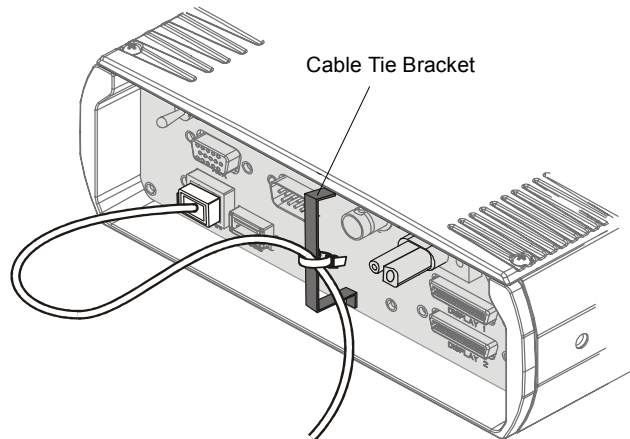


Figure 11
CPU Box - Cable Tie Bracket (F5206 only)

Radio modems can be installed inside the CPU box via the PC card slot. The antenna cable can be routed to an external antenna through one of the two openings located on the back side of the PC card door (see Figure 12).



Note

Do not remove the seals from the PC card door. The seals press against the antenna cable when the door is closed.

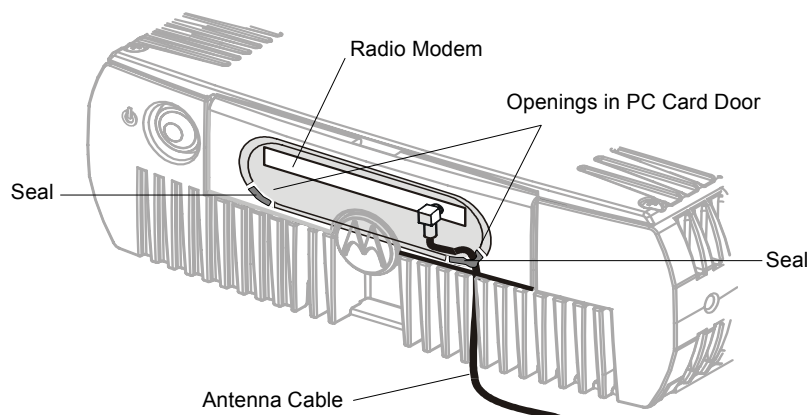


Figure 12
CPU Box - Antenna Cable Route of Radio Modem Installed in PC Card Slot

The CPU box can be mounted anywhere in the passenger compartment of the vehicle that provides adequate ventilation (see Figure 2).

It is recommended that the CPU box be mounted in a place where the PC Card slot can be easily accessed.

In addition, attach the adhesive tapes provided in the shipping carton to the PC Card to facilitate easy removal.

Suggested locations, in order of preference, are: on the CPU box mount, on the prisoner cage, under the dashboard, in the console, or under the seat (not in the direct path of the vehicle heater air flow). If the CPU box is mounted on the base plate of the mount assembly, it must be mounted using the CPU box mount.

The CPU box mount can be affixed to the base plate in two possible orientations (see Figure 8 and Figure 9):

1. On the base plate, directly under the keyboard tray (see Figure 9).
2. On the base plate, using different mounting holes in the opposite direction to the keyboard tray (see Figure 8).

MW 800 GPS Antenna

To install the GPS antenna, perform the following steps:

Step 1. Drill a hole into the mounting surface for the antenna post.

Step 2. Release the nut and the flat washer from the antenna post and insert the post into the hole.

Step 3. Secure the post with the flat washer and the nut.

Interconnection of the MW 800 CPU Box

This section refers to MW 800 with display, keyboard and peripherals. Figure 13 and Figure 14 show an optional connection layout for the MW 800, and Figure 16 shows the display connections. Note that any USB 1.1(model F5206) or USB 2 (model F5207), RS-232, Firewire or Bluetooth based devices may be used.

With the mechanical installation complete, hook up the optional antennas and other required options to the CPU box and display.

Ensure that the cables are properly routed to prevent damage to the cables and any operator hazards. Connect the DC Power cables at the end of the connection procedure.

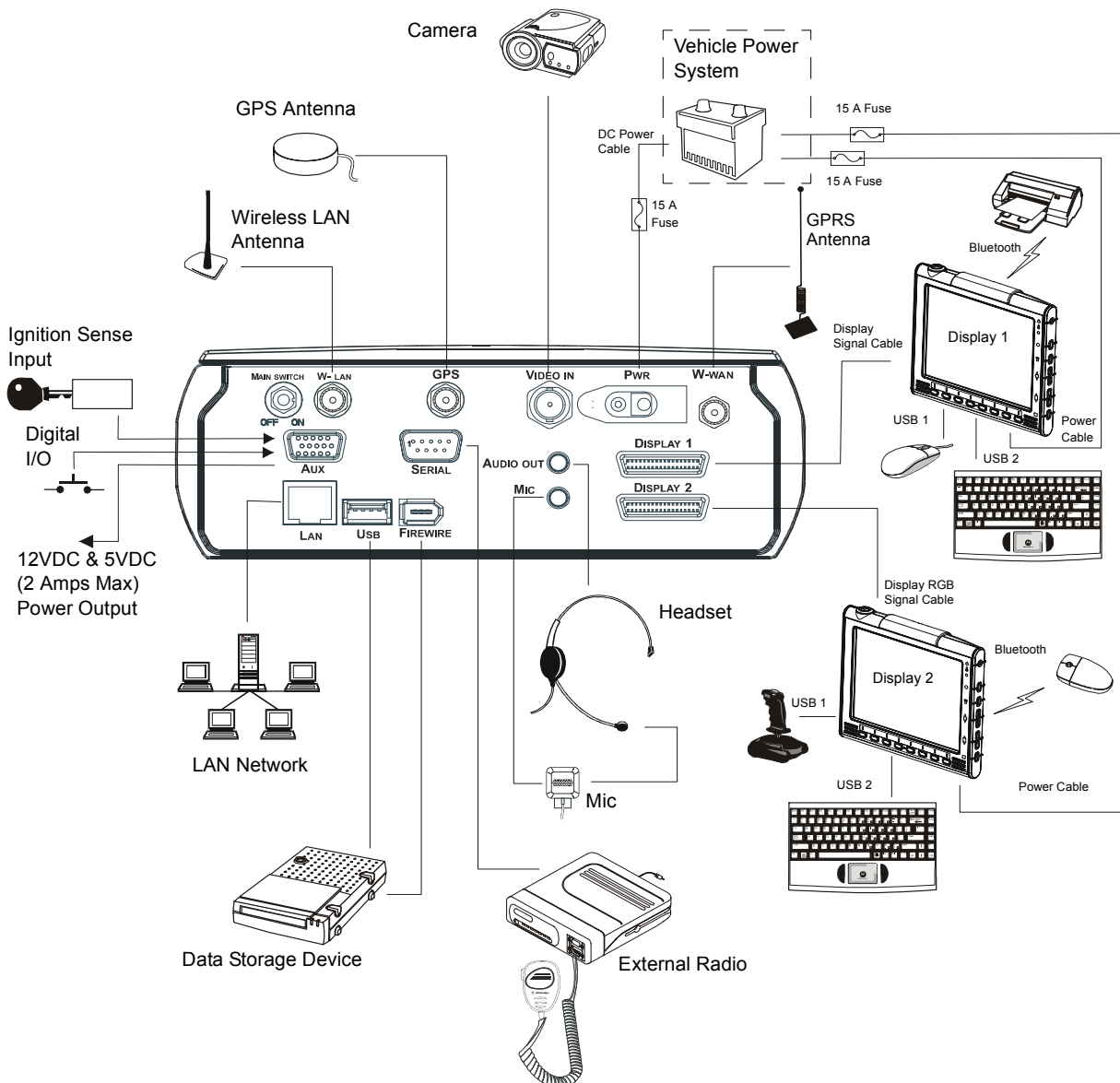


Figure 13
MW 800 - Optional Connection Layout for Model F5206

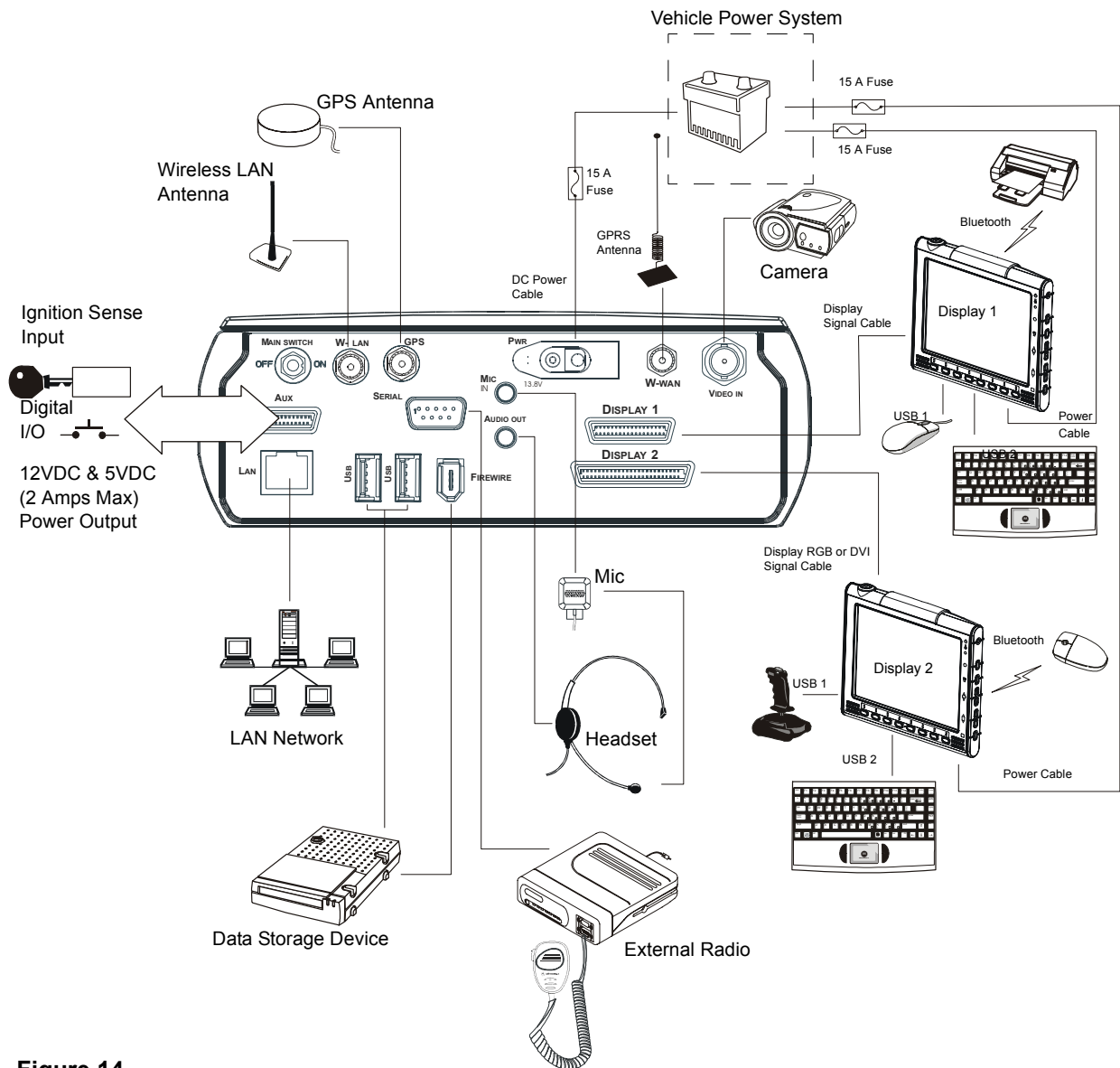


Figure 14
MW 800 - Optional Connection Layout for Model F5207

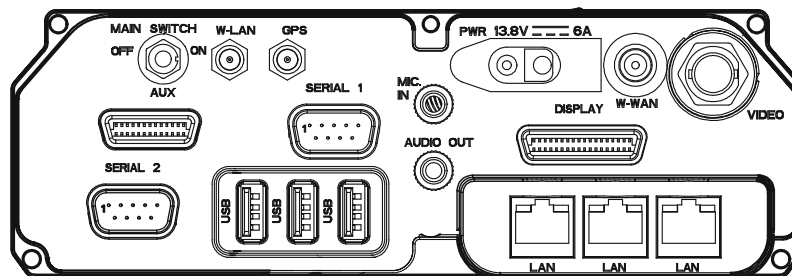


Figure 15
MW 800 - Optional Connection Layout for Model F5217

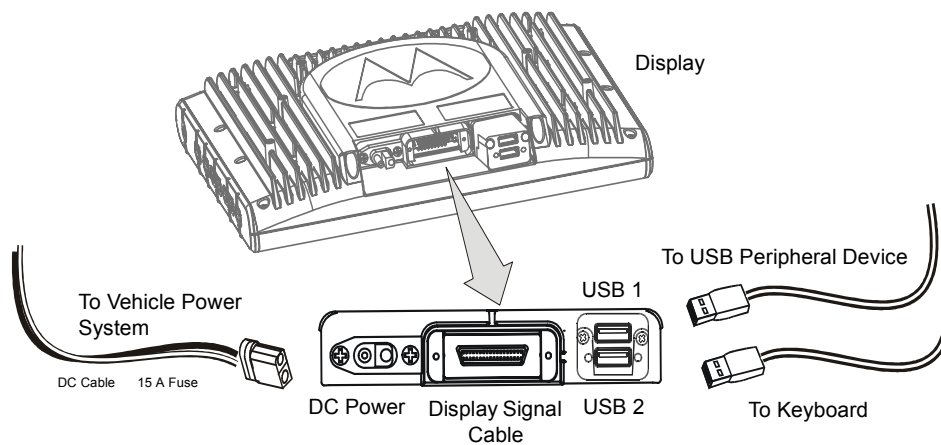


Figure 16
12" Display Connections

For 8.4" display connections, please refer to the installation manual of the 8.4" display

W-WAN Antenna Connection

Connect the vehicle RF antenna cable connector (Mini UHF) if an internal Wireless Wide Area Network (W-WAN) radio is installed (iDEN, GPRS, DataTAC). If the RF Power Amplifier is used, this connection is made to the RF-IN connection on the RF Power Amplifier, and the vehicle antenna is connected to the antenna connector on the RF Power Amplifier.

W-LAN Radio (802.11b) Connection

Connect the vehicle RF antenna cable connector (reversed SMA) if internal Wireless Local Area Network (W-LAN) radio is installed.

GPS Connection

The MW 800 may be supplied with an optional Global Positioning System (GPS) card. Connect the GPS cable to the GPS connector on the CPU box rear panel on one side and to the GPS antenna connector on the other side.

Video In Connection

Standard Composite video input (CVBS). The MW 800 is equipped with a BNC type connector to which a video camera can be connected. A BNC to RCA adapter 5802810C07 is also available from Motorola, if required.

Display Connections

Standard Interfaces Red Green Blue (RGB) connection for two display units (F5206 & F5207). DVI interface is available for the secondary display of F5207.

USB Connections

The MW 800 has use standard Universal Serial Bus (USB) type A receptacle connectors to which any standard USB 1.1 (model F5206) or USB 2 (model F5207) device can be connected. The CPU box USB connection is used for general purpose, and the display USB receptacles are for QWERTY style keyboard and any general purpose device.

Firewire Connection

The MW 800 is equipped with one standard Firewire (IEEE1394) receptacle, to which any standard Firewire device can be connected.

Serial Connection

The RS-232 port is an IBM[®] PC standard DB-9 male connector. This port can be used to attach a radio modem, or any other serial device.

LAN Connection

Ethernet 10/100 Mb/s wire connection to Local Area Network (LAN) support.

Microphone Connection

The MW 800 is equipped with an Audio In connector to which an external microphone can be connected.

Audio Out Connection

The MW 800 is equipped with an Audio Out connector to which external mono earphones can be connected or external speaker with built-in amplifier. Adjustable volume buttons are located on the display.

PWR Connection

The MW 800 is equipped with two Motorola DC power cables and fuses, one for the CPU box and the second for the display. To connect power to the MW 800 units perform the following steps:

- Step 1. Route the power cable from the power connector on the MW 800 CPU box or display to the vehicle power system using accepted industry methods and standards.
- Step 2. Plug the cable tightly into the DC power connectors.
- Step 3. Be sure to grommet the vehicle fire wall to protect the cable.
Connect the red wire to the positive (+) terminal of the battery, and the black wire to the negative (-) terminal.



Caution

The black wire should be connected directly to the battery and not to the chassis of the vehicle.

AUX Connection

This port provides ignition sense connection to the MW 800. This port can also be used to supply 5VDC (2A max for F5206 1A for F5207) and car battery voltage out (2A max for F5206 1A for F5207). The AUX port provides two digital TTL level one bit inputs and two one bit outputs.



Note

Whenever the MW 800 is not connected to the vehicle ignition, it is recommended to leave the AUX connector cover in place.

For complete pin assignment refer to Table 3.

Ignition Sense Connection

To install the ignition-sense cable between the AUX connector and the vehicle ignition line, carry out the following steps:

Step 1. Connect one end of the ignition-sense wire to pin 1 (in model F5206) or pin 8 (in models F5207 & F5217) of the AUX connector, and the other end to the vehicle ignition switch.

Step 2. Connect pin 12 (in model F5206) or pin 4 (in model F5207) to the vehicle ground.

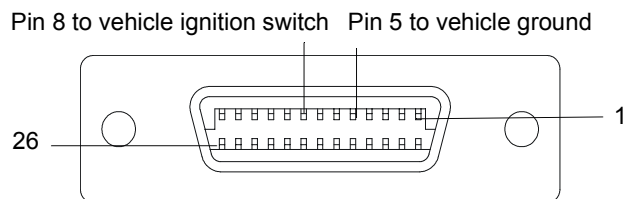
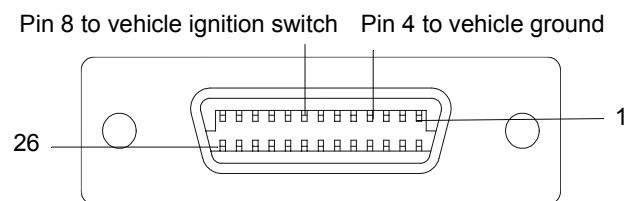
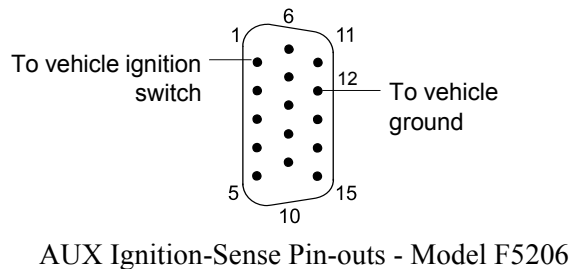


Figure 17
AUX Ignition-Sense Pin-outs

Turn-on Modes

The MW 800 has four optional turn-on modes using the ignition key and the Power buttons of the display or CPU box. Setting an optional turn-on mode is performed by software application.

Using the Power Button or Ignition Key to Start the MW 800

This mode is the default workstation setting.

The MW 800 can be turned ON by either one of the following methods:

1. Press the Power button of the CPU box or Display, regardless of the ignition key position.
2. Turn ON the ignition switch.

The MW 800 can be turned OFF by either one of the following methods:

1. When the ignition switch is in OFF position, press the Power button of the CPU box or Display. Note that when the ignition switch is in ON position, the Power buttons are ignored.
2. Turn OFF the MW 800 via the Operating System (OS).

Using the Power Button and Ignition Key to Start the MW 800

The MW 800 can be turned ON by the following method:

1. Turn ON the ignition switch.
2. Press the Power button of the CPU box or Display to turn ON the MW 800.

The MW 800 can be turned OFF by the following method:

1. Press the Power button of the CPU box or Display to turn OFF the MW 800.
2. Turn OFF the ignition switch.
3. Turn OFF the MW 800 via the OS.

Using the Power Button to Start the MW 800

The MW 800 can be turned ON by the following method:

1. Press the Power button of the CPU box or Display, regardless of ignition key position.

The MW 800 can be turned OFF by either one of the following method:

1. Press the Power button of the CPU box or Display.
2. Turn OFF the MW 800 via the OS.

Using the Ignition Key to Start the MW 800

The MW 800 can be turned ON by the following method:

1. Turn ON the ignition key. Note that the CPU box and Display Power buttons are disabled.

The MW 800 can be turned OFF by either one of the following methods:

1. Turn OFF the ignition key.

2. Turn OFF the MW 800 via the OS. Note that in order to turn ON the MW 800, the ignition key should be turned to OFF position, and switched back to ON.

Turning On the MW 800

Before powering ON the MW 800:

- Verify proper display to CPU cable connection on both sides.
- Verify keyboard connection to the display.
- Verify that the vehicle power system can supply at least 15 Amps.
- Check that the power cables are plugged into the power connectors of the CPU box and the display.



Note

The main power switch on the CPU box back panel (MAIN SWITCH) must be in OFF position before connecting to power supply source.

- Switch ON the main power switch (MAIN SWITCH) on the back panel of the CPU box.

If the MW 800 is connected through the ignition switch, insert the car key into the ignition switch and rotate it to ACC position, or start the engine, before powering ON.

To power the workstation, press the Power button on the front panel of the CPU box, or press the Workstation Power button on the display.

Turning Off the MW 800

To turn Off the workstation, press the CPU box or display Power button momentarily. The workstation displays the Windows shut-down dialog box. Remember to save important information before turning OFF the MW 800.

The MW 800 automatically turns OFF as a result of the following events:

- Extreme temperatures
- Discharged vehicle battery
- Pressing the Power button on the CPU box or display for more than six seconds

In critical conditions or during maintenance, the workstation may be powered OFF by turning the main power switch on the CPU box back panel.



Caution

Turning OFF the main power switch or disconnecting the power cable when the MW 800 is running may seriously damage your operating system or your hard disk.

Replacing Power Cable Fuse (Vehicle Power)

Remove the fuse (15A) from the fuse holder located on the Motorola DC cable and replace it with a new one of the same type and value (part no. 6580283E06).

Storage

Important Note: Maximum storage period in shipping package is six months. To refresh storage, assemble the workstation and run Disk Defragmenter (*Go to: Start->Programs->Accessories->System Tools->Disk Defragmenter*)

Receptacles

Table 2
SERIAL Connection

Pin No.	Signal
1	DC0
2	RX1
3	TX1
4	DTR1
5	2_GND
6	DSR1
7	STS1
8	CTS1
9	RI1

Table 3
AUX Connection - Model F5206

Pin No.	Signal	Description
1	IGNITION_MODE	12V DC Ignition sense input from ignition key
2	INPUT1	Digital input TTL (5V) level
3	INPUT2	Digital input TTL level
4	OUTPUT1	Digital output TTL level
5	OUTPUT2	Digital output TTL level
6	DSC_EN	Aux Radio Enable input signal
7	DSC-UPLINK	Radio Output
8	DSC-DOWNLINK	Radio Input
9	+12V	Output power. Maximum 1 Amps. Output inhibits when CPU box temperature is above operating range
10	+12V	Output power. Maximum 1 Amps. Output inhibits when CPU box temperature is above operating range
11	N.C	-
12	GND	Ground
13	GND	Ground

Table 3
AUX Connection - Model F5206

Pin No.	Signal	Description
14	MONITOR_MODE	Service input signal
15	+5V	Output power. Maximum 2 Amps. Output is automatically disconnected when CPU box temperature is above operating range

Table 4
AUX Connection - Model F5207

Pin No.	Signal	Description
1	USB-AUXPOS	USB I/O Positive
2	USB-AUXNEG	USB I/O Negative
3	VBUS-AUX	USB Output
4	GND	Ground
5	LINE-OUT-R	Right Speaker Output
6	LINE-OUT-L	Left Speaker Output
7	SPDIF	Digital Audio I/O
8	IGNITION	12V DC Ignition sense input from ignition key
9	BOOTBLOCK#	Crisis BIOS boot-up input signal (active low signal). Used to boot the CPU box from an external drive that connects to any of the USB ports.
10	PROG-ENTER-AUX	Enable input signal for the “one wire” programming of the HC08 controller in the CPU box
11	GND	Ground
12	MICNEG	Microphone negative output signal
13	VREF-MIC	Microphone positive output signal
14	V12-OUT	Output power. Maximum 1 Amps. Output inhibits when CPU box temperature is above operating range. The output power corresponds to the power that operates the CPU box
15	V12-OUT	Identical to pin 14
16	GPI0	General purpose digital input number 0, TTL level (5V)

Pin No.	Signal	Description
17	GPI1	General purpose digital input number 1, TTL level (5V)
18	GPO0	General purpose digital output number 0, TTL level
19	GPO1	General purpose digital output number 1, TTL level
20	1W	I/O data for "one wire" programming of the HC08 controller in the CPU box
21	DSC-EN	Aux Radio Enable input signal for GPRS radio programming
22	DSC-UPLINK	Radio Output
23	DSC-DOWNLINK	Radio Input
24	GND	Ground
25	V5-OUT	Power output. Maximum 1 Amps. Output is automatically disconnected when CPU box temperature is exceeds operating range
26	V5-OUT	Power output. Maximum 1 Amps. Output is automatically disconnected when CPU box temperature is exceeds operating range

Table 5
AUX Connection - Model F5217

Pin No.	Signal	Description
1	SPEED+	Positive vehicle speed input signals
2	SPEED-	Negative vehicle speed input signals
3	FWD+	Forward/Backward drive direction input signals
4	FWD-	Forward/Backward drive direction input signals
5	GND	Ground
6	GND	Ground
7	GND	Ground
8	IGNITION	12V DC Ignition sense input from ignition key
9	BOOTBLOCK#	Crisis BIOS boot-up input signal (active low signal). Used to boot the CPU box from an external drive that connects to any of the USB ports.
10	PROG-ENTER-AUX	Enable input signal for the "one wire" programming of the HC08 controller in the CPU box

Pin No.	Signal	Description
11	GND	Ground
12	GND	Ground
13	GND	Ground
14	V12-OUT	Output power. Maximum 1 Amps. Output inhibits when CPU box temperature is above operating range. The output power corresponds to the power that operates the CPU box
15	V12-OUT	Identical to pin 14
16	GPI0	General purpose digital input number 0, TTL level (5V)
17	GPI1	General purpose digital input number 1, TTL level (5V)
18	GPO0	General purpose digital output number 0, TTL level
19	GPO1	General purpose digital output number 1, TTL level
20	1W	I/O data for “one wire” programming of the HC08 controller in the CPU box
21	DSC-EN	Aux Radio Enable input signal for GPRS radio programming
22	DSC-UPLINK	Radio Output
23	DSC-DOWNLINK	Radio Input
24	GND	Ground
25	V5-OUT	Power output. Maximum 1 Amps. Output is automatically disconnected when CPU box temperature is exceeds operating range
26	V5-OUT	Power output. Maximum 1 Amps. Output is automatically disconnected when CPU box temperature is exceeds operating range

Table 6
USB Connection

Pin No.	Signal
1	VBUS0
2	USB0-
3	USB0+
4	3_GND

Table 7
IEEE 1394a (Firewire)

Pin No.	Signal
1	VFW
2	GND
3	TPB0-
4	TPB0+
5	TPA0-
6	TPA0+

Table 8
LAN Connection

Pin No.	Signal
1	TX_ENG
2	CTS1
3	TX_POS
4	RX_ENG
5	CT2
6	RX_PDS

Table 9
DISPLAY 1 Connection

Pin No.	Signal
1	Red
2	Green
3	Blue
4	VSYNC
5	USB(+)
6	USB(-)
7	SP4-L1
8	SP4-R1
9	MIC_POS

Table 9
DISPLAY 1 Connection

Pin No.	Signal
10	USB-5V
11	POWERON1
12	USB-5V
13	SPARE
14	DDC_DATA
15	DDC_CLK
16	N.C
17	N.C
18	GND
19	GND
20	GND
21	GND
22	HSYNC
23	GND
24	N.C
25	SP4-L2
26	SP4-R2
27	MIC_NEG
28	GND
29	PRIMARY_MDR
30	GND
31	1_WIRE
32	N.C
33	N.C
34	N.C
35	N.C
36	GND

Table 10
DISPLAY 2 Connection - Model F5206

Pin No.	Signal
1	R_5
2	G_5
3	B_5
4	VSYNC_5
5	USB(+)_5
6	USB(-)_5
7	SP4-L1_5
8	SP4-R1_5
9	MIC1_5
10	USB-5V_5
11	POWERON1_5
12	USB-5V_5
13	GND
14	DDC1_5
15	DDC2_5
16	N.C
17	N.C
18	GND
19	GND
20	GND
21	GND
22	HSYNC_5
23	GND
24	N.C
25	SP4-L2_5
26	SP4-R2_5
27	MIC2_5
28	GND
29	POWERON2_5
30	GND

Table 10
DISPLAY 2 Connection - Model F5206

Pin No.	Signal
31	DD_5
32	N.C
33	N.C
34	N.C
35	N.C
36	GND

Table 11
DISPLAY 2 Connection - Model F5207

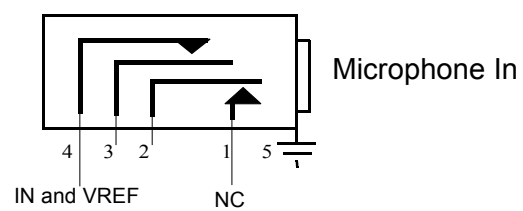
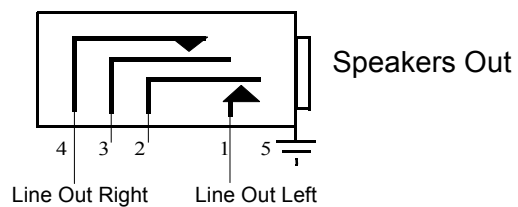
Pin No.	Signal
1	TDC2
2	TDC2#
3	GND
4	TDC1#
5	TDC
6	GND
7	TDC0
8	TDC0#
9	GND
10	HSYNC
11	GND
12	VSYNC
13	GND
14	SPCLK
15	GND
16	SPDATA
17	GND
18	SECOND MDR
19	GND

Table 11
DISPLAY 2 Connection - Model F5207

20	SPARE1
21	GND
22	1W
23	GND
24	ON-OFF
25	GND
26	TLC
27	TLC#
28	GND
29	USB_NEG
30	USB_POS
31	GND
32	VBUS
33	GND
34	GND
35	RED
36	GND
37	BLUE
38	GND
39	GREEN
40	GND
41	HPDET
42	SECOND SPARE
43	GND
44	MICNEG
45	MICPOS
46	GND
47	HP-L
48	HP-L#

Table 11
DISPLAY 2 Connection - Model F5207

49	HP-R
50	HP-R#



Accessories

Displays

Description	Nomenclature
COLOR DISPLAY 12.1" SVGA 300NIT HB. TOUCH SCREEN	FLN3157
COLOR DISPLAY 12.1" XGA 1200NIT HB. TOUCH SCREEN	FLN3167
COLOR DISP. 12.1" SVGA 300NIT With Bluetooth	FLN3168
COLOR DISP. 12.1" XGA 1200NIT With Bluetooth	FLN3169
DO NOT order secondary display with Bluetooth if primary display has Bluetooth. ONLY one (1) display should have Bluetooth functionality.	
COLOR DISPLAY 8.4" SVGA 350NIT, TOUCH SCREEN	FLN3221

Cables for 12.1" (for Primary Display)

Description	Nomenclature
4.5FT(1.5M) DISPLAY-CPU CABLE MW800	FKN8068
9.6FT (3M) DISPLAY-CPU CABLE, MW800	FKN8069
17FT (5.0M) DISPLAY-CPU CABLE, MW800	FKN8070
LINE OUT CABLE ADAPTOR, MW800 (F5206)	FKN8081
1.6FT(0.5M) LAP-TOP TO MW800 DISPLAY CABLE	FKN8090
1.6FT(0.5M) DISPLAY-CPU CABLE, MW800	FKN8131
12FT (3.6M) DISPLAY-CPU CABLE MW800	FKN8143
EXT. SPEAKER CABLE ADAPTOR (F5207 & F5217)	FKN8340
KEYBOARD EXTENDER CABLE, USB 6FT	FKN8201
MODS ADAPTER CABLE	FKN8215

Cables for 8.4" Display (for Primary Display)

Description	Nomenclature
12FT (3.5M) CPU TO 8.4' DISPLAY	FKN8216
16FT (5.0M) CPU TO 8.4' DISPLAY	FKN8217

Cables for Secondary Display

Description	Nomenclature
4.5FT(1.5M) CPU 2ND TO 8.4" DISPLAY (F5207)	FKN8336
9.6FT(3.0M) CPU 2ND TO 8.4" DISPLAY (F5207)	FKN8304

16FT(5.0M) CPU 2ND TO 8.4" DISPLAY (F5207)	FKN8305
4.5FT(1.5M) CPU 2ND TO 12.1" DISPLAY (F5207)	FKN8306
9.6FT(3.0M) CPU 2ND TO 12.1" DISPLAY (F5207)	FKN8337
16FT(5.0M) CPU 2ND TO 12.1" DISPLAY (F5207)	FKN8307

Drives

Description

USB FLOPPY DISK DRIVE

HARDWARE H.D 40GB

ML850 RM8 KIT DVD COMBO DRIVE

Nomenclature

DDN6871

FHN6480

DDN7541

Keyboard

Description

KEYBOARD,USB, BACKLIT,US, MW800

Nomenclature

FLN9890

Microphones

Description

MICROPHONE EXTERNAL MW 800 (F5207, F5217)

MICROPHONE EXTERNAL MW 800 (F5206)

Nomenclature

FLN3482

FLN2957

Mounting Kits

Description

MOUNTING TRUNNION

MOUNT, IN DASH SINGLE DIN, 8.4" DISPLAY

BALL JOINT CRADLE W/BASE & VESA PLATE, 8.4" DISPLAY

Nomenclature

FHN6388

FLN3303

FLN3304

Speaker

Description

SPEAKER KIT MOBILE (F5207, F5217)

EXT. SPEAKER CABLE ADAPTOR (F5207, F5217)

EXT. SPEAKER CABLE ADAPTOR (F5206)

SPEAKER KIT MOBILE (F5206)

Nomenclature

FLN3481

FKN8340

FKN8186

FHN1669

Converter

Description

Nomenclature

CONVERTER, USB TO 4 RS232

FLN2955

Others

Description

9.6FT(3.0M) AUX cable 26/open (F5207, F5217)

9.6FT(3.0M) CPU DVI-D cable (F5207)

Nomenclature

FKN8338

FKN8339

Acronyms

A	Ampere
ACK	Positive (Acknowledgment)
AUX	Auxiliary
CPU	Central Processing Unit
DC	Direct Current
DDRAM	Double Data Rate-Synchronous DRAM, a type of SDRAM
DRAM	Dynamic Random Access Memory
DTE	Data Terminal Equipment
DVI	Digital Video Interface
FCC	Federal Communications Commission
GHz	Gigahertz
GPI	General Purpose Input
GPO	General Purpose Output
GPRS	General Packet Radio Service
GPS	Global Positioning System
GSM	Global System for Mobile communication
I/O	Input/Output
iDEN	Integrated Digital Enhanced Network
IEEE	Institute of Electrical and Electronic Engineers
LAN	Local Area Network
LCD	Liquid Crystal Display
LP	Liquid Propane
MB	Megabyte
MDT	Mobile Data Terminal
MW	Mobile Workstation
NFPA	National Fire Protection Association
NIT	Near Infrared Transmission (also cd/m ² , a measure of luminance)
NTSC	National Television System Committee
OS	Operating System

PA	Power Amplifier
PAL	Phase Alternation Line
PC	Personal Computer
PC	Personal Card
PCI	Peripheral Component Interconnect
PRM	Portable Radio Modem
PWR	Power
RF	Radio Frequency
RFI	Radio Frequency Interference
SIM	Subscriber Identity Module
SVGA	Super Video Graphics Array
TFT	Thin Film Transistor
TTL	Transistor-Transistor Logic
UHF	Ultra High Frequency
UL	Underwriter's Laboratories
USB	Universal Serial Bus
V	Volt
VDC	Volts Direct Current
VRM	Vehicular Radio Modem
WLAN	Wireless Local Area Network
WWAN	Wireless Wide Area Network
XGA	eXtended Video Graphics Array

Glossary

C

Central Processing Unit (CPU): The computer in charge of fetching, processing, and storing data, generally used to refer to the entire microprocessor chip.

D

Data Terminal Equipment (DTE): User terminal equipment which creates information for transmission, for example, a user's PC.

DB-25: A 25-pin connector used for V.24 or RS-232C interfaces.

DB-9: A standard 9-pin connector used for serial interfaces.

Direct Current (DC): Current that flows through a circuit in only one direction.

G

Global Positioning System (GPS): A constellation of 24 radio navigation (not communication) satellites in six different orbits, which transmit signals used by GPS receivers to determine precise location (position, velocity, and time) solutions.

M

Mobile Data Terminal (MDT): Vehicle installed device providing a data entry and display user interface for data communication functions.

P

Personal Computer (PC): The generic term for a single user, microprocessor based computer whose architecture is derived from the original IBM® Personal Computer.

R

Radio Frequency (RF): Refers to the electromagnetic energy wavelengths between the audio and the light range (usually somewhere between 10 kHz and 300 GHz).

Radio Frequency Interference (RFI): 1) The Radio Frequency (RF) radiation which leaks from a device when it is transmitting. 2) Electrical disruption (noise) created by certain types of equipment that may be radiated through air.

RS-232: The most common, standard interface used to connect Data Terminal Equipment (DTE) to modems. It uses a DB-25 connector, although the DB-9 version has become popular on PCs which have limited space for connectors.

U

Ultra High Frequency (UHF): Radio frequency, extending from 300 MHz to 600 MHz.

Underwriter's Laboratories (UL): An independent and non-profit USA testing/certification agency that was created by insurance companies to inspect electrical devices to ensure there are no shock or fire hazards present.

Universal Serial Bus (USB): industry standard for PC bus interface enabling multi-drop connection of both high-speed (12 Mb/s) and low-speed (1 Mb/s) serial port devices

V

Vehicular Radio Modem (VRM): VRM 650 or 850 - External radio modem integrated with MCS2000 mobile radio into a single unit for use with separate MDT.

General Specifications

PHYSICAL

Size (H x W x D)

CPU	2.74" x 7.75" x 9.45" (6.95 x 19.7 x 24.0 cm)
8.4" Display	7.1" x 9.1" x 1.69" (18.1 x 23.1 x 4.3 cm)
12.1" Display	10.6" x 12.2" x 2.2" (26.9 x 31 x 5.6 cm)
Backlit Keyboard	1.26" x 12.60" x 8" (3.2 x 32 x 20.3 cm)

Weight

CPU	7.7 pounds (3.5 Kg)
8.4" Display	3.3 pounds (1.5 Kg)
12.1" Display	8.4 pounds (3.8 Kg)
Keyboard	2.2 pounds (1.0 Kg)

INPUT

Main Keyboard	QWERTY style layout, 85 total keys, 12 function keys, spill resistant, backlight illuminated, USB interface
Pointing Device	Integrated Touch-Pad and Touch screen
Display Keys	6/8 illuminated programmable function keys (8.4"/12" display)
Emergency Button	Dedicated emergency key located on the display module

COMMUNICATIONS / EXPANSION PORTS

USB	1 x USB 1.1 on CPU (F5206) 2 x USB 2.0 on CPU (F5207) 3 x USB 2.0 on CPU (F5217)
Serial	3 X RS-232 ports: one external, two internal for WAN and GPS support (F5206 & F5207) 4x RS-232 ports: two external, two internal for WAN and GPS support (F5217)
Ethernet	1 X 100 BaseT both 10 & 100 Mbps (F5206 & F5207) 3 x 100 BaseT (F5217)
PC Card Slots	External Type II and internal CF (for WLAN radio in F5206)

PCI (F5207 & F5217)	Internal Mini PCI (used for WLAN radio)
Video Input	1 X standard Composite video input (CVBS) port, (PAL or NTSC)
Sound	Two 0.5 W speakers with adjustable volume on 12.1" display One 0.5 W speaker with adjustable volume on 8.4" display Line out (non-amplified) for external speaker External microphone in
Primary Display Interface	RGB, USB, 2-line audio out (balanced, non-amplified)
Secondary Display Interface	F5206 - RGB, USB, 2-line audio out (balanced, non-amplified) F5207 - RGB or DVI, USB, 2-line audio out (balanced, non-amplified)
Firewire 400	One IEEE 1394
Aux Port	F5206 - 2x general purpose inputs; 2x general purpose outputs; ignition sense; 12V battery voltage out (2A) and 5V DC out (2A) F5207 - 2x general purpose inputs; 2x general purpose outputs; ignition sense; 12V battery voltage out (1A) and 5V DC out (1A); USB 2.0; Audio In/Out F5217 - 2x general purpose inputs; 2x general purpose outputs; ignition sense; 12V battery voltage out (1A) and 5V DC out (1A); Speed and Direction signals

COMPUTER

Processor	F5206 - Intel® Pentium® 4-M 1.7 GHz Intel Pentium 4-M 2.2 GHz Intel Celeron® 1.8 GHz F5207 & F5207 - Intel Pentium-M processor 745; 1.8 GHz, 2MB cache Intel Pentium-M processor 715; 1.5 GHz, 2MB cache Intel Celeron-M processor 320; 1.3 GHz
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VGA Controller	16 MB (F5206), 32 MB (F5207 & F5217) internal video RAM
Video Capture	Conexant BT878A
Power Management	Embedded controller supports intelligent thermal and power management.
Mass Storage	Removable Hard Disk: 40 GB (60 GB optional) with three dimensional Shock absorber, with heater 2/4 GB Flash Disk available as an alternate to the Hard Drive
Internal Memory	Optional: 256 MB, 512 MB or 1GB DDRAM
Operating System	Supports Microsoft Windows 2000 and XP Pro

DISPLAY WITH THERMAL PROTECTION MECHANISM

LCD Type	Color Active Matrix, TFT transmissive
LCD Size	12.1" Diagonal XGA or SVGA 8.4" Diagonal SVGA
Resolution	1024 x 768 XGA LCD panel / 800 x 600 SVGA LCD panel
LCD Luminance	Standard SVGA: 300/350 NIT(cd/sq.m) High-bright XGA: 1200 NIT (cd/sq.m)
Standard Touch screen	8 Wire Resistive, tempered glass with anti- reflective coating, impact-proof

COMMUNICATION PROTOCOLS – INTERNAL RADIOS (OPTIONAL)

Private DataTAC (optional)

Frequency	806-824 MHz Tx, 851-869 MHz Rx
Protocol	RD-LAP 9.6, RD-LAP 19.2
RF Power Output	1.8 Watt into 50-ohm load

GPRS

Frequency	900 MHZ, 1800 MHz, 1900 MHz
Protocol	GPRS packet data
RF Power Output	1.8 Watts at 900 MHz 1 Watt at 1800 MHz and 1900 MHz

iDEN Packet Data

Frequency	806-821 MHz Tx, 851-869 MHz Rx
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Protocol	iDEN (25 kHz spacing)
RF Power Output	0.6 Watts (variable in 6 steps) into 50-Ohm load
GPS	F5206 - Internal Trimble™, SK II F5207 - F5217 - Internal Trimble™, SQ F5217 - Internal U-Blox with Dead Reckoning
WLAN	F5206 - IEEE 802.11b, 11 Mbps F5207 & F5217 - IEEE 802.11b/g, 11/54 Mbps
Bluetooth	Version 1.1 compatible (in 12.1" display model) Supports data and voice profiles

ENVIRONMENTAL

Operating Temperature	<p>F5206: -22 to 158°F (–30 to +70°C) for the 1.7 GHz processor -22 to 122°F (–30 to +50°C) for all other processors</p> <p>Notes:</p> <ul style="list-style-type: none"> • Performance at extremes include start-ups (with occasional slight delay due to hard drive heater ramp-up time) and sustained operations of typical mobile workstation applications. • UL certification is available only to 131°F (55°C), though continued operations are available above this limit. • When using 9 VDC battery to power the workstation, the workstation will not power up if the temperature range is below -22°F (-30°C) <p>F5207 & F5217: -22 to 158°F (-30 to +70°C)</p>
Storage Temperature	–40 to 158°F (–40 to +70°C)
Humidity	90 to 95% Relative humidity at 50°C for 8 hours

DURABILITY

Shock	20g peak 1/2 sine wave @ 11ms, 30 impacts
Vibration	Per TIA/EIA 603 Paragraph 3.3.4 and MIL-STD-810F method 514.5, Fig 514.5C-1
Drip	Per MIL-STD-810F method 506.4 Procedure III
Dust Blowing	Five hours in dust (140 mesh silica flour), laden atmosphere dust agitation time is for 2 seconds every 15 minutes
Salt Fog	8 hours, 5% Sodium Chloride at 35°C, after exposure, per MIL-STD-810F 509.4, Procedure I

Flammability	Per UL94-HB
Solar Radiation	7 cycles of 24 hours with no functional degradation per MIL-STD-810F, 505.4, Procedure I
Shock Crash Hazard	75g, 6 ms per MIL-STD-810F method 516.5, Procedure V

ELECTRICAL ENVIRONMENT

Power Source	Vehicle Battery (12 V, negative ground)
Power Range	13.8 VDC $\pm 20\%$, with no loss of functionality
Electrical Transients	Meets ISO7637-1
Power Consumption (at 13.8 VDC)	<u>CPU Box</u> Maximum: 5 A Typical: 3A (F5206) 1.5 A (F5207 & F5217) Suspend Mode: 0.7 A (F5206 when fans are not working) Suspend Mode: 0.4 A (F5207, F5217) <u>12.1. XGA Display</u> Maximum (when heater is not working): 3.5 A Maximum (when heater is working): 6.5 A Typical: 3 A <u>12.1. SVGA Display</u> Maximum (when heater is not working): 2 A Maximum (when heater is working): 5 A Typical: 1.5 A

FCC INFORMATION

GPRS Radio	Acceptance Number: IHDT6AC1
iDEN Packet Data Radio	Acceptance Number: AZ489FT5796
Private DataTAC	Acceptance Number: PQS-BM28001
WLAN	F5206 Acceptance Number: H9PLA4137 F5207 & F5217 Acceptance Number: PD9WM3B2200BG

United States

Radiated Emission	FCC Part 15, Class B
Radio Acceptance	FCC Part 90, Part 22, Part 24
Safety	CUL60950-1

Canada

Radiated Emission	ICES003 (equivalent to FCC Part 15, Class B)
Radio Acceptance	DOC RSS119
Safety	cUL60950-1

Europe

Radiated Emission	EN55022 Class B
Safety	EN60950-1
EMC Immunity	EN50024
R&TTE	EN-301489
eMark	Directive 72/245EC (95/54EC)

Australia

Radiated Emission	AS/NZS 3548 (1995) Amendment 2 -1997 CISPR 22
Safety	AS/NZS 60950

Specifications subject to change without notice.

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